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Chapter 25 - APPENDIX

CADD Production Criteria Handbook

25.1 GLOSSARY OF TERMS

accept Clicking the Data button to approve the placement of a data point at the location of a tentative point or to confirm the identification of an element to which a tentative point is snapped.

active angle The angle, in degrees, used with tools that require an angle specification. (AA=)

active cell The cell that is placed with the cell placement tools. (AC=)

active class The class (primary or construction) of an element upon placement. Design files are normally composed of primary elements. Construction elements are usually placed to help place primary elements and are usually not plotted.

active color The setting that determines the color of an element upon placement. (CT=)

active color table The set of up to 256 colors from which the active color table is modified, attached, and saved in the Color Palette setting box.

active command The command that has been activated from a palette, menu, or Command Window key-in.

active depth The depth within the view cube of the plane upon which data points are entered. The plane is perpendicular to the Z-axis of the view. There is an active depth associated with each view.

active design file The design file currently opened for viewing and/or manipulation.

active entity The row in the database table that is linked to a graphic element when a database attachment is executed.

active font The setting that determines the font of a text element upon placement. (FT=)

active level The setting that determines the level upon which an element is placed. (LV=)

active pattern angle The setting determines the angle at which the active pattern cell is placed by Pattern Element Area or Pattern Fence Area, the angle of the lines placed using Hatched Element Area, or two settings that determine the angle of the lines placed using Crosshatch Element Area. (PA=)

active pattern cell The setting that determines the cell that is used for patterning. (AP=)

active pattern scale The setting that determines the scale at which the active pattern cell is placed during area patterning and linear patterning. (PS=)

active pattern spacing The distance(s) between adjacent pattern cells placed using Pattern Element Area or Pattern Fence Area. The distance(s) between lines placed using Hatch Element Area or Crosshatch Element Area. (PD=)

active point The setting that determines whether a cell, symbol, or zero-length line is drawn by the point placement tools. (PT=)

active scale factor The setting that determines the amount of scaling applied to a cell when placed, to selected elements when using Scale Element, or to the fence contents when using Scale Fence Contents. The scale factors in the x, y, or z direction can be identical or each can be different. (AS=)

active symbology The setting that determines the color, line style, and line weight of a design element upon placement.

active line style The setting that determines the line style of an element upon placement. (LC=)

active text height The setting that determines the height of text upon placement. (TH=)

active text width The setting that determines the width of text upon placement. (TW=)

active line weight The setting that determines the line weight of an element upon placement. (WT=)

alphanumeric A string of characters that take the form of letters, numbers, and some symbols (e.g. @, $, and punctuation).

alternate key-in A short-cut for entering a key-in command**:** for example, AA= is an alternate key-in for ACTIVE ANGLE=.

arc Regularly curved open element that has a constant radius around a single center point.

area patterning Placement of the active pattern cell at the active pattern angle, scale, and spacing in an area bounded by a shape, ellipse, circle, fence, or complex shape. The cell is repeated in a rectangular array spacing as many times as necessary to fill the area.

aspect ratio Height divided by width.

associated dimensions Dimensions that update automatically as the element they dimension is modified.

attach To activate a paper, cursor button, or sidebar menu. To define a cell library, color table, or reference files for use with a design file.

authentication The process of comparing the Professionals' Electronic Data Delivery System (PEDDS) generated message digests (SHA-1 Hash Codes) of the manifest file and signature files for an on-hand delivery file set to those stored on a PEDDS generated, signed manifest document for a specific delivery. This process is similar to validation, but extends the process to the signed paper manifest document.

Authorization The event in which the project is certified as ready to be advertised for letting.

B-spline curve A free-form, parametrically defined curve in which each pole (vertex) has an influence over a defined range of the curve.

B-spline surface A free-form, parametrically defined surface in which each pole (vertex) has an influence over a defined range of the surface.

Baseline An accurately measured line from which the position of other points may be determined, or on which a survey may be based.

benchmark A relatively permanent object, natural or artificial, bearing a marked point whose elevation above or below an adopted datum is known.

Bid Set A file set containing a subset derived from the Project CD containing only those items needed to prepare a letting CD. Though the term refers to a CD, the file set may be stored or transmitted electronically. The 'Plans & Specs' data set is created from the 'Project' data set using the SETMAKER application.

bitmap Pixel oriented mode of saving data, usually from the screen. When saving data as bitmaps, the resolution, or fineness of detail, is determined by the resolution of the device the bitmap is save from.

block A rectangular shape.

Bi-level A term for Level Symbology.

CADD Computer Aided Design and Drafting.

cell A complex element composed of a group of other complex elements that is stored in a cell library for repeated replacement.

cell definition The graphical elements that make up a cell.

cell library A file that is used to store cells. To access cell in a cell library, the library must be attached.

cell library index file A binary file that contains the name of each cell in the attached cell library. MicroStation generates this file automatically.

cell origin The point, specified during cell creation, about which the cell is placed (corresponds to the data point when the cell is placed in the design).

Centerline The axis along the middle of a road or other facility from which features can be conveniently measured.

CES Cost Estimating System The Department's program for estimating construction cost for projects.

Change report An automatically generated HTML report that is created by the Project Delta application. It contains information about sheet-specific differences between a secured, delivered file set and a new, corrected file set

class An element attribute, usually primary or construction.

click To press or tap once on a cursor or mouse button. To select a 'Push' button or 'Check' button in a dialogue or settings box.

clip To divide an area, element, or portions of elements in a design from the rest for manipulation or display.

clipping boundary Boundary established with a fence or from a named view that separates the portion of a reference file that should be displayed from the portion that is not of interest. Reference files that are attached coincidentally cannot be clipped.

coincident reference file attachment A coincidentally attached reference file has a one-to-one correspondence between its design plane and the design plane of the active design file. If the 'working units' settings and the global origin are identical in the two files, the coordinates in working units are identical as well.

Color Palette Setting box that allows you to browse, modify, attach, and save the active color table.

command An instruction that tell MicroStation what to do. Commands are activated with tools in tool palettes; pull down menus; settings and dialogue boxes; Command Window key-ins; menu blocks; paper, cursor button or sidebar menus; and function keys. All commands can be activated with a key-in.

complex chain An open complex element that is formed from a series of open elements.

complex element An element created by combining several primitive elements.

complex shape A closed complex element formed from a series of open primitive elements.

compliance certification worksheet A document that contains the data producer's certification that all items required by the CADD manual are included in the project.

composite PDF A single document, that contains all plan sheet images in index order. This file must be in Adobe Portable Document Format, reside in the project's root directory, and be titled 'Project.PDF'. This report can be automatically generated by the Project Browser application.

component A categorization of design plans as defined in Chapters 2 & 3 of the FDOT Plans Preparation Manual, Vol. 2.

compress Reduce the size of a design file or cell library by permanently removing the elements or cells that have been marked for deletion.

cone An element composed of two circles on parallel planes with a surface connecting the two circles. A cone can be a solid (capped on both ends) or surface (not capped) element.

control net A rectangular array of vertices that (together with the B-spline order) define the shape of a B-spline surface.

control polygon Polygon whose vertices (together with the B-spline order) define the shape of a B-spline curve.

coordinate Location of a point in the design plane along the x (horizontal), y (vertical), and z (depth (3D only)) axes relative to the global origin.

correction **<**See *Plans Change*>

cross-section A view at the interior of an object as it is sliced along a plane.

crosshatch The process of constructing two sets of evenly spaced lines in a closed area bounded by a complex shape, closed elements, or fence at the active pattern angles and spacings.

Data button Button on a mouse or digitizing tablet cursor that is pressed to enter data points and identify elements for manipulation.

data point Input entered using the pointing device that designates a point in the design.

Datum A known or measured point, line or plane to which others may be referred for vertical or horizontal control.

delete Remove an element(s) from the design or cell(s) from a cell library. Deleted elements are not immediately purge from the design file, but are marked as deleted. To purge deleted elements, choose Compress Design from the File menu.

delivery A set of electronic files—generally corresponding to a Department work-project—secured by the PEDDS process, plus additional project metadata.

delivery key A unique message digest (SHA-1 hash code) used to reference the delivery. The delivery key is the message digest (hash code) of the delivery's manifest file.

design file MicroStation document file. The open (active) design file can be manipulated. Design files can be attached to the open design file as reference files for viewing and construction purposes.

design plane The area in which elements are created in a 2D design, except DTM and contours. The design plane size is dependent on the resolution. The standard V8 resolution of 304800 per Survey Foot creates a design plane of 5596825 miles. A working unit definition is applied to the design plane to assign real world coordinates to the design plane.

digitizing The process of coding graphic information from paper sources into a design file.

dimension Label in a design showing a distance or angle measurement.

dimension attributes Attributes for all components of dimension elements, including text (color, weight, font, height, and width), lines (color, style, weight, and alternates) and level.

dimension element An element that contains all of the lines, arcs, terminators, and text in a dimension.

dimension line terminators Symbols placed at the end of dimension lines that clarify the meaning of the dimensions.

dimension line The component of a dimension that is usually parallel to and the same length as the object being dimensioned.

dimension mark Symbols placed with dimension text that clarifies the meaning of the dimension text.

dithering Alternating two or more color pixel across the screen to seemingly create a third color not available in the color palette.

drop complex element Return the primitive elements composing a complex element to their primitive element status.

DXF A drawing interchange file format supported by most CAD packages. MicroStation design files can be saved in DXF format, and DXF files can be imported into MicroStation design files.

EDG The Edit Design Graphics utility, which lets you display, search, and modify a design file or cell library in a non-graphical, command line environment. Not used in MicroStation Version 8.

electronic data indexer (EDI) Electronic Delivery Index, or EDI, has been developed to provide designers with the ability to quickly build an index from a set of plans. It is designed to work in conjunction with the Department's required CADD package, Bentley MicroStation.

element One of the entities that make up a design file.

element symbology The color, line style, and line weight of an element.

enter data field One or more character placeholder that reserves space in a text element for future input.

EOF End Of File marker tell the software where to stop scanning a file, and where to append new elements.

extension Characters optionally separated from the main part of a filename by a period (".") character. Traditionally, these have been used to designate the type of file. For example, .dgn, .cel, .ucm are commonly used to represent a design file, a cell library, and a user command, respectively.

fence Grouping tool used to select multiple elements for simultaneous manipulation.

fillet An arc constructed between and tangent to two converging lines.

filter A filename pattern that limits filenames displayed in a list to those fitting the patter: for example, "\DGN*.DGN".

fit Viewing operation that expands the area seen within a view to include all elements on all levels turned on in the view.

font A style of lettering. Fonts are identified by both a number and a font name.

Font Library A file in which text characters styles, symbols, or patterns are stored. The font library then acts as input for software which displays and outputs characters, symbols, or patterns. Each font can have up to 256 characters, symbols, or patterns.

frame A palette that has sub-palettes.

function key menu A way to assign actions to the function keys on the keyboard.

global origin Location of the origin of the Cartesian coordinate system in the design plane coordinates (UORs). When design plane positions are specified or reported in working units, they are relative to the global origin.

graphic element A graphic component of the design referred to in user documentation as simply an "element".

graphic group A permanent grouping of elements (primitive or complex). An element can be a member of only one graphic group at a time.

hash code See *Message Digest*.

imagery Visible representation of characters, lines drawings and symbols.

index An XML file created by EDI that contains metadata concerning all files that have been identified as sheets in a project directory. This file is titled 'ProjectIndex.XML' and must reside at the root of the project. This is the only file that the Electronic Delivery suite of tools recognizes as an official index.

journal Documentation that is included with a project, detailing the decisions made, methods used, and actions taken on the project as they occur. This is maintained in the form of electronic documentation, comprising the all journal files for the project. Design variations and exceptions can be thoroughly documented as part of the journal. The Professional of Record is responsible for the overall journal for the project. Journals are created and maintained by EDI.

letting The process of advertising, selection, and award of a contract for the construction of a project.

letting CD The compact disk prepared for the letting process consisting of plans, specifications, and a front-end "kiosk" application that offers easy access to bidding documents.

level Data in the design file is segregated into drawing levels. Levels are similar to transparent overlays that can be put together to form a complete drawing. A level can be turned on and off independently in different views.

level symbology View setting that, when turned on, causes all elements on a particular level to be displayed with the same element symbology.

line string An open graphic element composed of up to 4000 line segments connected at the vertices.

line style Part of the symbology of an element: for example, whether a line is solid, continuous dashes, dots and dashes, and so on. In plotting, a line style is an index in the range 0 to 7 that designates a particular sequence of pen up/down pairs to be used when drawing or plotting a graphic element. Each element has its own line style.

line terminator A cell placed at the end of an open element, oriented in the direction of the element. A common line terminator is an arrowhead placed at the end of a line segment.

line weight An index in the range 0 to 31 that designates the weight or thickness of the lines used to draw or plot a graphic element. Each element has its own line weight.

linear patterning The repetitive placement of the active pattern cell along a line, line string, shape, arc, circle, ellipse, or curve element.

manifest document A signed paper document used to secure a manifest file and to reference the signature files in the project delivery corresponding to the manifest. By signing the manifest document, one has associated their name to the manifest file that corresponds to the hash code on the paper document. The manifest file lists the project files by URL and the project files' hash-codes, thus the signatory has signed the files listed in the manifest.

manifest file The XML file, created and maintained by PEDDS, used to define and secure the entire contents of a project delivery. This file is titled 'Manifest.XML' and will always reside in the project's _meta_info sub-directory.

message digest An alpha-numeric string which is generated by a one-way cryptographic algorithm and used by PEDDS to process and identify the contents of a file. This is often referred to as a *hash code*. Every electronic file has its own unique hash code based on its content.

manipulate Copy, move or modify an element or group of elements.

mask An area of a reference file that is not displayed.

master units The largest units in common use in a design.

matrix menus Paper (mounted on the surface of a digitizing tablet) menus that contain menu blocks of a fixed size organized in rows and columns.

menu One method for activating a MicroStation command, including pull-down menus, tool palettes, function key menus, and paper menus.

MicroStation Development Language (MDL) Allows programmers to execute "C" language code within MicroStation. MDL is dependent on the specific platform version. Programs, written in MDL, use MicroStation as a CAD engine.

monument point A known landmark point in the design plane. Monument points are used to orient reference files, and to set up mapping between a paper document and the design plane for digitizing.

multi-line element A set of two or more parallel lines treated as a single object, commonly used for drawing walls in a floor plans. A multi-line element can be defined to include up to 16 separate lines, each with its own symbology, level, and class.

non-coincidental reference file attachment A non-coincidentally attached reference file is offset, rotated, or scaled from the active design file.

noun-verb A manner of operating MicroStation: identifying an element in the design before choosing a tool to act upon it.

origin See cell origin or global origin.

orthogonal Constructed with right angles or perpendicular lines. An orthogonal shape contains only right

palette Floating, icon-based screen menu used for activating MicroStation commands.

panning Scrolling a view over the design plane.

parabola A plane curve generated by a point moving so that its distance from a fixed point is equal to its distance from a fixed line.

pattern element An element with a class attribute of pattern. It can be placed only with a patterning tool.

patterning See linear patterning or area patterning.

PC Station Point of Curvature Station at the beginning of a horizontal curve.

PEDDS The Professionals' Electronic Data Delivery System (PEDDS) is as application used to simplify the tasks involved with file security. PEDDS allows users to sign electronic files, ensuring that users can easily test to determine if a project has been changed, corrupted or tampered with.

perspective The distance, in working units, from the eye point to the front of the display cube for a view with perspective projection.

pI Station Station of the Point of Intersection of two tangents.

plans change ***(****Plans Preparation Manual Chapter 20 definition)*** Modification to a set of plans, after the Estimates department has changed the Control Group, but before the plans are sent to the FDOT Central Office.

pixel "Picture element:" the smallest dot of light that a monitor can display.

point cell Cell with a single, snappable point. Point cells are commonly used for symbols and to establish monument points. The snappable point in a point cell is the cell origin. Point cells are always placed relative to the active level with the active symbology.

point element A special case of a line element; one that has no length.

point of intersection The point at which two non-parallel lines intersect, or would intersect if the lines were extended.

positional units Smallest resolution obtainable in the design plane. One unit of resolution is equal to a positional unit. See also **units of resolution (UOR)**.

precision input Entering data points at precise locations either by specifying the coordinates or by specifying the distance from the most recent data point or tentative point. Precision input can be entered from the precision Input setting box or by using key-ins in the Command Window.

primary elements Elements whose class attribute is primary (as opposed to construction.)

primitive elements Simplest type of element.

project An entity, corresponding to a Department work-project, that uniquely identifies a delivery or collection of deliveries containing electronic files made during the creation of the work-project. Multiple deliveries can exist for a single project, each representing the status of the project at the time of delivery. Work-projects are identified by the Department through the Financial Project Identification Number and related project identification, but the PEDDS and PEDDS DB systems use a generated, unique identifier—the project key—to identify the project. All deliveries corresponding to a particular project will share the same project key.

project browser Project Browser is an application that simplifies the tasks of quality assurance and report generation, while providing a graphical interface for project review. It allows users to view an overview of a project, including all components, design files, file sheets and project journals.

project CD A CD containing all data associated with a project, including all files on the Plans & Specs CD, all design files, all reference files, project journals, etc.. Though the term refers to a CD, the file set may be stored or transmitted electronically.

project delta Project Delta is a report generating application used to simplify the job of keeping track of file changes after revisions and corrections. Users can quickly identify and report on any indexed differences between two deliveries of the same project.

project key An alphanumeric character string, generated by PEDDS, that uniquely identifies a project. This number is unique across all projects that are secured using PEDDS and identifies one project and one project only.

project root directory The file system directory that contains all project files and folders. The project root directory should not contain files that do not pertain to the project, nor should files that are part of the project reside outside of the project root directory or one of its subfolders. The folder structure is defined in chapter 4 of the CADD Production Criteria Handbook.

PT Station The point of a Tangent Station at the termination of a horizontal curve and at the beginning of the tangent.

qSheet qSheet is an application in the FDOT 2002 Electronic Delivery suite of tools which offers designers and contractors an easy means to print all or part of an indexed project sheet set.

quality control reports Reports that must be included with the final project delivery: the Compliance Certification Checklist and all reports listed therein.

raster background A bitmapped picture that can be used as the backdrop for a rendering.

rectangular ACS The Auxiliary Coordinate System that uses the standard (Cartesian) axes.

reference file A design file that is attached to and viewed simultaneously with the active design file. Reference files can be used for constructions in the active design file, but cannot be modified. Elements can be copied from a reference file to a design file.

Reference Points One of several fixed objects for which measurements are made to enable a point to be accurately located.

resolution The number of addressable points across a given area. For example, plotter resolution is measured in lines per inch, while screen resolution is usually given with two numbers indicating the number of pixels across the width and height of the largest image that can be displayed.

revision Section 20.4 of the Plans Preparation Manual defines a revision as a modification to the Bid Set after it has been transmitted to Central Office but prior to bid opening.

revision report An automatically generated HTML report created by the Project Delta application. It contains information about differences between indexed items in a secured project delivery and indexed items in a new revised file set. In contrast with a Correction report, the Revision Report also contains embedded XML data that will allow the SetMaker application to generate a set of revised files. This report is generated prior to the securing of the revised project and should be included in the delivery for the revised project.

revision set The set of files that denote changes to indexed items from one delivery to the next, as well as the revision report that defines them. Because Revision Sets are managed as independent entities and must have authenticated, unique signatories created and used for each revision set during the project revision process.

scale Resize an element or elements by the active scale factors. In plotting, the ratio between distance in the design file master units and distance moved by the plotter pen.

securing files The act of creating and storing a SHA-1 message digests for a specific file or file set. Message digests and relative file paths are kept in the project's Manifest.XML file, which in turn will allow PEDDS to validate secured files.

seed file A template used to create a new design file or cell library. The new file has its settings identical to those of the seed file.

seed project A seed project is a folder set that contains all folders as listed in Chapter 4 of the FDOT CADD manual, as well as the project configuration file and various journal RTF files. Once a seed project is created, it is ready for the Production phase.

select To place a data point on and activate a tool.

set maker SetMaker is an application in the FDOT 2002 Electronic Delivery suite of tools. Its intent is to assist in the validation and generation of the various types of electronic project file subsets that are required during the lifespan of a project.

settings Values that determine how MicroStation displays a design or handles user inputs.

SHA-1 hash standard US Secure Hash Algorithm 1 (SHA1) is a secure hash standard which produces a condensed representation of a message or data file. The SHA-1 is called secure because it is computationally infeasible to find a message which corresponds to a given message digest, or to find two different messages which produce the same message digest.

shape Closed primitive element composed of up to 100 linear segments.

Shared cell A cell whose elements are stored once in the design file, regardless of how often the cell is placed. Any changes made to one instance of a shared cell, is reflected in all instances of that shared cell.

sheet Electronic Delivery applications recognize a sheet as a discreet image file that is listed in the project index. It must belong to a component and have a defined discipline. Sheet Index See index

sheet index report An HTML report which is derived from the project's Index (the 'ProjectIndex.XML' file). The report file must be titled 'SheetNDX.HTM' and must reside in the project's root directory.

sheet navigator The Sheet Navigator browser is an application that allows users to easily browse and open MicroStation files containing sheets for verification or editing. Its purpose is to 'tag' sheets with data that supports later Electronic Delivery Indexing and Plotting. Sheet Navigator is a foundation utility for subsequent Electronic Delivery processes, and should be run against every MicroStation design file in the project that has sheets in it and checked that the sheet data is both extracted and edited properly.

signatory The person or professional who secures files in a delivery using a signature file and document. If the signatory is a professional, signatures will be governed by rules defined by the Florida Boards of Professional Regulation. A professional may have multiple signatories in a project as needed by the revision process. See 'Revision Set' for more details.

signature document A physically signed or signed-and-sealed paper document used to secure a signature file. Florida and Federal law accept the association of a physical signature with an electronic document. The Florida Boards of Engineering and Surveying and Mapping have adopted rules whereby professionals can electronically sign and seal electronic documents in accordance with these laws. Therefore, by signing the signature document, the signatory is, by proxy, signing and sealing all files that are listed on the report. A professional may have multiple signatories in a project as needed by the revision process, and as such, may have multiple Signature Documents associated with a project. See 'Revision Set' for more details.

signatory file A file that defines the project files that a signatory is going to sign or sign-and-seal. All signatory files are created by PEDDS and resides in the project's _meta_info sub-directory.

signing The act of securing a set of files under a signature file without the benefit of signing-and-sealing under Florida Boards of Professional Regulation rules. This implies that the signatory is a lay person and not a professional. Signing a file adds file information to the signatory's signature file.

signing and sealing The act of securing a set of files based on the rules defined by the Florida Boards of Professional Regulation governing signing-and-sealing electronic files. These rules provide for:

- a signature file to define the type of professional that is signing and sealing (i.e., engineer or surveyor)
- the professional's name, number, and scope of work
- the list of files—defined by relative URL and hash-code—that are to be signed and sealed

Signing and sealing can only be done a by professional. Signing and Sealing a file adds file information to the signatory's signatory file.

snap Use of the tentative point to position a data point at an exact point on the target element. Tentative points snap to an element when Snap Lock is on.

solid A type of complex elements specific to 3D, along with surfaces and B-spline surfaces.

strung project Two or more projects that are let in the same contract. A strung project may be created from two or more 'Plans and Specs' data subsets created by the SetMaker application.

style A multi-line definition or set of dimensions attributes that can be saved in a style library for later recall.

style library A file containing styles for use by MicroStation.

sub consultant A consultant, separate from the primary consultant, who performs work for a project under the hire of a prime consultant

sub delivery A delivery of files made by a sub consultant to a consultant, prime consultant or project manager.

subproject A complete project that is let with multiple projects constituting a strung project.

subset A set of files that is entirely derived from a secure delivery file set.

sub-palette A subordinate palette.

sub-units Units that master units are divided into in the working unit definition. For example, if master units are feet, a convenient sub-units setting would be inches. The number of sub-units per master unit and a one or two character abbreviation for the sub-unit name is specified in the working unit definition.

surface A geometric construction that can partition space but cannot enclose a volume.

symbol A character placed from a MicroStation symbol font.

symbol font A font that contains special use geometric constructions rather than alphanumeric characters. A typical use is to hold symbols for dimension line terminators and dimension marks, and geometric tolerances.

symbol library MircoStation uses the term cell library to refer to what may be known as a symbol library in other applications.

symbology See element symbology or level symbology.

tentative point A graphical input that is used to preview the location of the next data point, define a point of reference, and/or create an association point.

Terminal Control Block (TCB) A global data area of memory in which MicroStation stores settings.

terminator See dimension line terminator or line terminator.

text attributes The color, weight, font, height and width of text.

text element MicroStation places text in design files as a distinct type of element.

text node Multiple text elements grouped in a complex element. MicroStation automatically forms a text node when multi-line text is placed.

tile Arrange views and palettes so that they do not overlap.

toggle A setting that has only two states, such as off and on. Used as a verb, to change the state of a toggle.

tool A drawing function or the screen icon used to represent that function in a palette for selection.

tool palette Floating, hierarchical screen menus from which tools are selected.

Unit Lock The setting that, when on, forces all graphically entered data points to the nearest point that is an integer multiple of the unit distance from the global origin in the x, y, and (in 3D files) z directions.

unit distance The setting that specifies the spacing between points that data point will be restricted to when Unit Lock is turned on.

units of resolution (UORs) The distance between adjacent points in MicroStation's design plan. There are a very large number of fixed discrete positions or UORs along each coordinate axis that are defined as real world coordinates by master units and sub-units (collectively, working units). This process is similar to setting up a piece of graph paper to represent data of a particular range.

update Redraw the contents of a view(s).

user command (UCM) A macro written in the user command language. UCMs are helpful in automating repetitious sequences.

user command index A file that assigns numbers to user commands, so that the user commands can be selected by these numbers from a paper menu.

utility A support program that executes a particular command or request.

validation The automated comparison of file message digests and signatory security information in the project's manifest file against information calculated from a delivery that is on hand. Whereas Authentication compares the results with those on the Manifest Document, validation merely tests to determine if the project file set has been altered in any way since the project was secured.

vertex The highest point or apex of a figure, the intersection of lines or curves, or the endpoint of an element.

view A window displaying a portion or all of the design file and its attached reference files.

void A mode of fence clipping that selects elements or parts of elements outside the fence, rather than within the fence.

window A bordered rectangular region on the screen displaying a tool palette, dialogue box, setting box, view, sidebar menu, tutorial, or Command Window.

window origin The position in the design plane of the lower-left corner of a view.

windowing A method of selecting new contents for a view.

working area Size, in working units square, of design plane.

working resolution Number of positional units, or units of resolution, per sub-unit.

working units The real-world units that the design plane is configured to.

zoom Decrease (zoom in) or increase (zoom out) the portion of the design displayed in a view.

25.2 ABBREVIATIONS

The abbreviations are listed in the FDOT Design Standards STANDARD ABBREVIATIONS Index No.001 for contract plans production. This list is not inclusive. Other Department accepted abbreviations may be used when deemed more appropriate. Where special abbreviations are used a descriptive tabulation may be necessary in the plans.

http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm

25.3 REFERENCED DOCUMENTS

Plans Preparation Manual *(Topic No. 625-000-007 Vol1 English) (Topic No. 625-000-008 Vol2)*

This manual provides engineering criteria and guidelines to be used in the development of roadway designs and plans preparation for roads on the State Highway System.

FDOT CADD Manual *(Topic No. 625-050-001)*

This manual provides guidance to engineers and technicians in **C**omputer **A**ided **D**rafting and **D**esign (CADD) techniques for the development of Contract CADD plans.

Design Standards *(Topic No. 625-010-003)*

These indexes provide standard drawings to support the various engineering obligations for designing, specifying, estimating, constructing, inspecting, testing, accepting, operating, maintaining and monitoring the roads on the State Highway System.

Structures Manual *(Volume 1) Design Guidelines (Topic No. 625-020-154)*

This document provides the structures personnel with guidelines for the development of uniform structural design and plans preparation.

Structures Manual *(Volume 2) Detailing (Topic No. 625-020-200)*

This manual provides the structures personnel with engineering standards and guidelines for structures detailing in the development of structural design and plans preparation.

Structures Standard Drawings *(Topic No. 625-020-300)*

Location Survey Manual *(Topic No. 550-030-100)*

These procedures are to be used as a guide, both by in-house and contractual personnel in performing field surveys for the Department.

Drainage Manual *(Topic No. 625-040-002)*

The Drainage Manual sets forth drainage design standards for the Florida Department of Transportation.

Utility Accommodation Manual *(Topic No. 710-020-001)*

This guide is to regulate the location, manner, installation and adjustment of utility facilities along, across or on any road under the jurisdiction of the Department of Transportation.